

CLAIM AMENDMENTS

1.(Currently Amended) ~~Composite~~ A composite grinding roller (1), produced by casting, comprising peripheral inserts (5) made of a material with high wear resistance and great hardness, sealed during said casting in a ductile matrix (19), said ductile matrix (19) infiltrating around or into the peripheral ~~insert~~ inserts(5) during this casting in such a way as to establish close contact at the interface between said peripheral inserts (5) and said ductile matrix (19), said roller (1) comprising first zones subjected to heavy wear (14) as well as second zones subjected to light wear (13), wherein said first zones (14) ~~[[has]]~~ have, on its peripheral surface, the peripheral inserts (5) with an abutting part (6,7) and said second zones (13) ~~[[has]]~~ have a non-abutting part, the gap in said non-abutting part (12) being filled by said ductile material (19) during the casting, allowing sufficient mechanical fixation for the peripheral inserts.

2. (Currently Amended) ~~Roller~~ The roller as in ~~[[Claim 1]]~~ claim 1, wherein ~~[[the]]~~ abutting surfaces of the abutting part (6) and (7) ~~coming into contact with their neighbours in successive inserts have~~ of successive peripheral inserts form a contact ~~[[line]]~~ corresponding to the radii of the circle formed by the roller (1).

3. (Currently Amended) ~~Roller~~ The roller as in ~~[[Claim]]~~ claim 1, wherein ~~[[the]]~~ a ratio of the lengths of the ~~abutting faces~~ first zones to the lengths of the second zones ~~where the faces do not abut~~ is greater than or equal to 0.2.

4. (Currently Amended) ~~Roller~~ The roller as in ~~[[Claim]]~~ claim 3, wherein ~~[[the]]~~ a ratio between the lengths of the first zones ~~where the faces abut~~ to the lengths of the second zones ~~where the faces do not abut~~ is between 0.2 and 20.

5. (Currently Amended) ~~Roller~~ The roller as in ~~[[Claim]]~~ claim 1, wherein ~~[[the]]~~ a wear resistance of the peripheral inserts (5), in the abutting ~~[[parts]]~~ part, is

increased by a ceramic reinforcement selected from the group of oxides, carbides, nitrides or borides.

6. (Currently Amended) ~~Roller~~The roller as in [[Claim]]claim 1, wherein said peripheral insert inserts (5) comprises at least one undercut (15) that allows its sealing into said matrix cast in ductile material (19).

7. (Currently Amended) ~~Roller~~The roller as in [[Claim]]claim 2, wherein [[the]]a ratio of the lengths of the first zones~~abutting faces~~ to the lengths of the second zones ~~where the faces do not abut~~ is greater than or equal to 0.2.

8. (Currently Amended) ~~Roller~~The roller as in [[Claim]]claim 2, wherein [[the]]a wear resistance of the peripheral inserts (5), in the abutting [[parts]]part, is increased by a ceramic reinforcement selected from the group of oxides, carbides, nitrides or borides.

9. (Currently Amended) ~~Roller~~The roller as in [[Claim]]claim 3, wherein [[the]]a wear resistance of the peripheral inserts (5), in the abutting [[parts]]part, is increased by a ceramic reinforcement selected from the group of oxides, carbides, nitrides or borides.

10. (Currently Amended) ~~Roller~~The roller as in [[Claim]]claim 4, wherein [[the]]a wear resistance of the peripheral inserts (5), in the abutting [[parts]]part, is increased by a ceramic reinforcement selected from the group of oxides, carbides, nitrides or borides.

11. (Currently Amended) ~~Roller~~The roller as in [[Claim]]claim 7, wherein [[the]]a wear resistance of the peripheral inserts (5), in the abutting [[parts]]part, is increased by a ceramic reinforcement selected from the group of oxides, carbides, nitrides or borides.

12. (Currently Amended) ~~Roller~~The roller as in ~~[[Claim]]~~claim 2, wherein said ~~peripheral insert~~inserts (5) comprises at least one undercut (15) that allows its sealing into said matrix cast in ductile material (19).

13. (Currently Amended) ~~Roller~~The roller as in ~~[[Claim]]~~claim 3, wherein said ~~peripheral insert~~inserts (5) comprises at least one undercut (15) that allows its sealing into said matrix cast in ductile material (19).

14. (Currently Amended) ~~Roller~~The roller as in ~~[[Claim]]~~claim 4, wherein said ~~peripheral insert~~inserts (5) comprises at least one undercut (15) that allows its sealing into said matrix cast in ductile material (19).

15. (Currently Amended) ~~Roller~~The roller as in ~~[[Claim]]~~claim 5, wherein said ~~peripheral insert~~inserts (5) comprises at least one undercut (15) that allows its sealing into said matrix cast in ductile material (19).

16. (Currently Amended) ~~Roller~~The roller as in ~~[[Claim]]~~claim 7, wherein said ~~peripheral insert~~inserts (5) comprises at least one undercut (15) that allows its sealing into said matrix cast in ductile material (19).

17. (Currently Amended) ~~Roller~~The roller as in ~~[[Claim]]~~claim 8, wherein said ~~peripheral insert~~inserts (5) comprises at least one undercut (15) that allows its sealing into said matrix cast in ductile material (19).

18. (Currently Amended) ~~Roller~~The roller as in ~~[[Claim]]~~claim 9, wherein said ~~peripheral insert~~inserts (5) comprises at least one undercut (15) that allows its sealing into said matrix cast in ductile material (19).

In re Appln. Of: Leon Leclercq
Application No.: 10/591,030

19. (Currently Amended) ~~Roller~~The roller as in [[Claim]claim 10, wherein said peripheral insert~~inserts~~ (5) comprises at least one undercut (15) that allows its sealing into said matrix cast in ductile material (19).

20. (Currently Amended) ~~Roller~~The roller as in [[Claim]]claim 11, wherein said peripheral insert~~inserts~~ (5) comprises at least one undercut (15) that allows its sealing into said matrix cast in ductile material (19).